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(57) Abstract

A method of detecting and correcting non–rigid body motion in a sequence of images, for instance MRI images of the human breast. The method uses a similarity measure, such as mutual information, to estimate the probabilities of a plurality of candidate movements for each of a plurality of sampling points in the image. The probabilities of the candidate movements are refined in an iterative process by multiplying them with weighted probabilities of the most probable motions for the neighbouring sampling points. After iteration the motion field is generated by taking the movement of the sampling point the candidate movement with the highest probability after the iteration process. The sequence of images can be corrected by the motion field and then the process repeated using different, for instance more closely spaced, sampling points for further refinement. The process is particularly advantageous for detecting and correcting for non–rigid movements in images which do not contain recognisable geometric features and in images which are non–conservative i.e. the total amount of brightness in the image changes with time, for instance as a result of the introduction of contrast agent and its dynamic take–up by the tissue being imaged.